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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/478,812	01/07/2000	Yukiyasu Sugano	SON-1718	2204

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EXAMINER	
LEE, EUGENE	
ART UNIT	PAPER NUMBER
2815	

DATE MAILED: 10/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/478,812	Applicant(s) SUGANO ET AL.	
	Examiner Eugene Lee	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11,12,17,18,27,28,39,40,53,54,63,65,73 and 74* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11,12,17,18,27,28,39,40,53,54,63,65,73 and 74* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 11, 39, 53, 63, and 73 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyasaka '779. Miyasaka discloses (see, for example, FIG. 1D) a thin film semiconductor device comprising an intrinsic silicon film 103, gate insulator layer 104, and gate electrode 105. In column 35, lines 45-47, Miyasaka discloses the intrinsic silicon film as having thickness of 500 A (=50 nm). In column 36, lines 18-64, Miyasaka states that the intrinsic silicon film is an a-Si films (amorphous silicon film) that is crystallized into polycrystalline silicon. In column 39, lines 12-15, Miyasaka describes the polycrystalline silicon as being uniform. Also, see ***Product-by-Process Limitations*** paragraph below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 12, 18, 28, 40, 54, 65, and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyasaka '779 as applied to claims 11, 39, 53, 63, and 73 above, and further in view of Tanaka et al. '744. Miyasaka does not disclose the thin film transistor as part of a display device comprising a pair of substrates adhered with an electrooptical substance and a presence of counter, pixel electrodes, etc. However, it was well known in the art at the time of invention that thin film transistors are integral to display or LCD devices (for example, see abstract and column 1, lines 8-17 of Tanaka). Therefore, it would have been obvious to one of ordinary skill in the art at time of invention to use the TFT polycrystalline films of Miyasaka's invention in the thin film transistors found in Tanaka's display devices since thin film transistors are conventionally used in display devices.

a. Note, for example, in FIG. 3, Tanaka shows a display device with the two substrates 12, 10, liquid crystal 200, counter electrodes 170r, 170g, pixel electrodes 150 and thin film transistor 101. These components are conventionally found in LCD display devices.

b. Claim 18 discloses the claimed invention except for the plural units. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to duplicate the units since it has been held that mere

duplication of the essential working parts of a device involves only routine skill in the art. In re Japikse, 86 USPQ 70.

c. Claim 28 discloses the claimed invention except for "said semiconductor thin films are accumulated." It would have been obvious to one having ordinary skill in the art at the time of the invention was made to duplicate and accumulate the semiconductor thin films since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. In re Japikse, 86 USPQ 70. Also see ***Product-by-Process Limitations*** Paragraph below wherein it states that the only patentable limitations are those limitations that are part of the final product. The accumulation of thin films is a method of forming a final product of a thicker thin film.

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyasaka '779. Claim 17 discloses the claimed invention except for the plural units. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to duplicate the units (and form more than one polycrystalline unit) since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. In re Japikse, 86 USPQ 70.

6. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyasaka '779. Claim 27 discloses the claimed invention except for "said semiconductor thin films are accumulated." It would have been obvious to one having ordinary skill in the art at the time of the invention was made to duplicate and accumulate the semiconductor thin films since it has

been held that mere duplication of the essential working parts of a device involves only routine skill in the art. In re Japikse, 86 USPQ 70.

Product-by-Process Limitations

7. While not objectionable, the Office reminds Applicant that "product by process" limitations in claims drawn to structure are directed to the product, per se, no matter how actually made. *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also, *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessmann*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wethheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); *In re Marosi et al.*, 218 USPQ 289; and particularly *In re Thorpe*, 227 USPQ 964, all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or otherwise. Note that applicant has the burden of proof in such cases, as the above case law makes clear. Thus, no patentable weight will be given to those process steps which do not add structural limitations to the **final** product.

All the claims recite limitations that do not offer any *structural* variation to the ***final*** product. Therefore, any language, such as "formed by forming ..... irradiating ..... with an energy beam" and "irradiate said region at a time by a single shot irradiation" in claim 11, for example, are given no patentable weight. The language here only recites methods of forming the final product (either a thin film semiconductor device or display device). Therefore, the only

limitations that the Office finds patentable are limitations that are part of a ***final structure***, regardless of any methods or intermediate structures that are present and recited in the claims.

Response to Arguments

8. Applicant's arguments filed 8/8/02 have been fully considered but they are not persuasive. According to the claims, the process of "a cross sectional shape of said energy beam is adjusted with respect to said region to irradiate said region in its entirety at a time by a single shot irradiation," results in the structural limitation of "characteristics of said thin film transistor are made uniform." Therefore, based on what is shown in the claim, the only structural limitation that will be considered is that the "characteristics of said thin film transistor being uniform."

Also, the attorney's argument that Miyasaka describes a method that produces borders is not persuasive since Miyasaka describes a semiconductor thin film that is **uniform**. A semiconductor thin film described as being uniform would contradict having borders.

INFORMATION ON HOW TO CONTACT THE USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 703-305-5695. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 703-308-1690. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Eugene Lee
October 11, 2002

EDDIE LEE
SUPERVISORY PATENT EXAMINER
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